



Complete Summary

GUIDELINE TITLE

Functional constipation and soiling in children.

BIBLIOGRAPHIC SOURCE(S)

University of Michigan Health System. Functional constipation and soiling in children. Ann Arbor (MI): University of Michigan Health System; 2008 Sep. 15 p. [15 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: University of Michigan Health System. Functional constipation and soiling in children. Ann Arbor (MI): University of Michigan Health System; 2003 Feb. 10 p.

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
QUALIFYING STATEMENTS
IMPLEMENTATION OF THE GUIDELINE
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Functional constipation

Note: Encopresis without constipation (non-retentive fecal incontinence) is not addressed in this guideline.

GUIDELINE CATEGORY

Diagnosis
Evaluation

Management
Treatment

CLINICAL SPECIALTY

Family Practice
Pediatrics

INTENDED USERS

Advanced Practice Nurses
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

- To present methods for early and accurate diagnosis of functional constipation and soiling in children
- To identify methods for education, clean-out, maintenance and extended follow up
- To promote child and family adherence to treatment recommendations

TARGET POPULATION

Children from infancy to 18 years

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation

1. History and physical examination
 - Symptoms and signs suggestive of constipation
2. Differential diagnosis
 - Red flags and evaluation for other disorders
 - Rome III diagnostic criteria

Management/Treatment

1. Education of caretakers
2. Clean-out and disimpaction if necessary
3. Dietary education and changes
4. Medications
5. Referral if necessary
6. Monitoring of progress and effectiveness
7. Weaning from medications
8. Longer-term follow-up

MAJOR OUTCOMES CONSIDERED

- Prevalence of constipation

- Adherence to treatment
- Treatment failure
- Recovery rates (with and without treatment)

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
 Hand-searches of Published Literature (Secondary Sources)
 Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The literature search for this update began with the results of the previous MEDLINE searches performed for earlier versions of this guideline. The initial search was performed from 1987 through 1996 for the original 1997 version of the guideline. A second search of literature from 1997 through May 2001 was performed for the 2003 update.

For this update, new MEDLINE searches were performed for three time periods. For all searches, the population was children (infancy to 18 years) and the results were limited to English language. The major key words were: constipation (e.g., constipation, idiopathic constipation, encopresis, fecal incontinence, soiling), clinical trials (e.g., clinical trials, cohort studies, meta-analysis), and guidelines (e.g., clinical protocols, practice guidelines, consensus development conferences).

Search 1. The North American Society for Pediatric Gastroenterology, Hepatology and Nutrition searched literature through September 2004 in preparing and reporting its 2006 guideline (see above). That search was accepted as our base for several topics, which we supplemented with a search of literature from 2004 to May 15, 2007. Topics included in this search included: symptoms (e.g., infrequent stool; painful defecation; withholding; hard stool; soiling, abdominal discomfort; impaction; palpable stool in abdomen or rectum); coexisting conditions (e.g., lead poisoning, codeine, ritalin, chemotherapy), confused conditions (e.g., Hirschsprung's disease, pseudo obstruction syndrome, spinal cord abnormal, hypothyroidism, diabetes insipidus), evaluation and testing T4, thyroid-stimulating hormone (TSH), calcium, lead, Celiac disease antibodies; stool test for occult blood; rectal biopsy; abdominal radiograph; transit time), diagnosis, medications (e.g., biscodyl, oral laxatives, rectal suppositories, magnesium salts, lactulose, glycolax), enema (e.g., mineral oil, hypertonic phosphate, milk & molasses), and other treatments.

Search 2. The search performed by the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition did not address some topics included in our guideline. For the following topics the search was from 2001 (end of our previous search) to May 15, 2007: behavioral training (e.g., positive reinforcement, toilet habits), parental intervention or education, diet (e.g., fiber, fluid, milk, milk protein, dairy products, calcium), allergy (e.g., milk, milk protein), and other behavioral and dietary interventions.

Search 3. A search of literature from 1987 to May 15, 2007, was performed for a set of terms concerning not examined specifically in our previous searches: milk-protein intolerance or allergy, breast feeding, milk-based formula, soy-based formula, protein Hydrolysate (semi-elemental or acid based).

The searches were conducted in components each keyed to a specific causal link in a problem structure. The search was supplemented with recent clinical trials known to expert members of the panel. The search was single cycle.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

- A. Randomized controlled trials
- B. Controlled trials, no randomization
- C. Observational trials
- D. Opinion of expert panel

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Strength of Recommendation

I = Generally should be performed

II = May be reasonable to perform

III = Generally should not be performed

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

University of Michigan Health System (UMHS) guidelines are reviewed by leadership and in clinical conferences of departments to which the content is most relevant. Guidelines are then endorsed by the Executive Committee for Clinical Affairs.

This guideline is consistent with Evaluation and treatment of constipation in infants and children: Recommendations of the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition. Journal of Pediatric Gastroenterology and Nutrition, 2006; 43(3): e1-e13.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the National Guideline Clearinghouse (NGC): The following key points summarize the content of the guideline. Refer to the full text of the original guideline document for additional information, including detailed information on diagnosis and "red flag" signs and symptoms; dosing and possible side effects for infants and children; cost of medications; instructions on education and behavioral training; and dietary choices.

The levels of evidence [A-D] are defined at the end of the "Major Recommendations" field.

For overview of diagnosis and treatment for age < 1 year, see Table 1 and for age > 1 year see Table 2 in the original guideline document.

Diagnosis

Functional constipation often begins during late infant to toddler age. **[C*]** Inquiring at doctor visits about stool frequency, character, and painful stool passage may aide earlier diagnosis. **[IC & D]**

- Symptoms and signs (Tables 3 and 4 in the original guideline document) are the best guides for accurate diagnosis. **[IC & D]**
- Red Flags (Table 5 in the original guideline document) should be checked to exclude other disorders. **[IC & D]**

Treatment

Child and family adherence to treatment recommendations is a likely predictor of success. **[IC & D]**

- Educate child and family (see Table 6 in the original guideline document). **[IC & D]**
- Clean-out impaction if present – applies only to age > 1yr (see Table 7 in the original guideline document). **[IB]**
- Diet modification to increase fiber and clear fluids (see Table 8 in the original guideline document). **[IC & D]**
- Behavioral training initiated for age > 1 year (see Table 9 in the original guideline document). **[IC & D]**
- Medication (see Table 10 in the original guideline document) often needed to achieve stool frequency ≥ 3 times per week. **[IA]**
- Consider referral for additional evaluation-management if treatment failure within first month. **[ID]**
- Wean from medications – if used – after about 6 months if stool frequency ≥ 3 per week. **[ID]**
- Dietary and behavioral components should continue. **[ID]**

Definitions:

Levels of Evidence

- A. Randomized controlled trials
- B. Controlled trials, no randomization
- C. Observational trials
- D. Opinion of expert panel

Strength of Recommendation

I = Generally should be performed

II = May be reasonable to perform

III = Generally should not be performed

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

When possible, conclusions were based on prospective randomized clinical trials. In the absence of randomized controlled trials, observational studies were considered. If none were available, expert opinion was used.

The type of evidence supporting the recommendations is specifically stated for each recommendation (see 'Major Recommendations' field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate diagnosis and management of functional constipation and soiling in children

POTENTIAL HARMS

Clean-Out and Disimpaction

- Enemas have a risk of mechanical trauma. Phosphate may cause abdominal cramping and has a risk of hyperphosphatemia, hypokalemia, and hypocalcemia especially with Hirschsprung's or renal insufficiency or if retained and is not recommended for children less than 2 years of age. Milk of molasses is best done in an emergency room or facility where complications can be appropriately managed because of report of cardiopulmonary decompensation.
- Bisacodyl may cause abdominal cramping, diarrhea, hypokalemia
- Polyethylene glycol electrolyte solution may cause nausea, cramping, vomiting, bloating, aspiration, pneumonia, Mallory-Weiss tear and administration may require nasogastric tube and hospitalization.
- Magnesium citrate has risk of hypermagnesemia.
- Glycolax may cause diarrhea, bloating and flatus

Maintenance

- Oral mineral oil has risk of aspiration and lipoid pneumonia. Adherence during maintenance may be problematic. Too high a dose or fecal impaction may cause anal leakage.
- Senna has risk of abdominal cramping. Maintenance with senna has risk of idiosyncratic hepatitis, melanosis coli, hypertrophic osteoarthropathy, analgesic nephropathy.
- Lactulose may cause abdominal cramping, flatus.
- Magnesium hydroxide (milk of magnesia) has the risk of hypermagnesemia, hypophosphatemia, secondary hypocalcemia with overdose and/or renal insufficiency.
- Increasing high fiber foods (which may displace other foods) as well as recommendations to decrease the consumption of potentially constipating foods (e.g., dairy), may lead to deficits in specific nutrients.

See also Tables 7 and 10 in the original guideline document for side effects of clean-out/disimpaction and maintenance medications.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

These guidelines should not be construed as including all proper methods of care or excluding other acceptable methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific clinical procedure or treatment must be made by the physician in light of the circumstances presented by the patient.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Chart Documentation/Checklists/Forms
Foreign Language Translations
Patient Resources
Resources

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1997 Sep (revised 2008 Sep)

GUIDELINE DEVELOPER(S)

University of Michigan Health System - Academic Institution

SOURCE(S) OF FUNDING

University of Michigan Health System

GUIDELINE COMMITTEE

Functional Constipation and Soiling in Children Guideline Team

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Neither the members of the guideline team nor the consultant have a relationship with commercial companies whose products are discussed in this guideline.

GUIDELINE STATUS

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GUIDELINE AVAILABILITY

Electronic copies: Available for download (in Portable Document Format [PDF]) from the [University of Michigan Health System Web site](#).

AVAILABILITY OF COMPANION DOCUMENTS

Continuing Medical Education (CME) information is available from the [University of Michigan Health System Web site](#).

PATIENT RESOURCES

The following is available:

- Functional constipation and soiling in children. Patient education handout. University of Michigan Health System; 2008 Sep. Various p.

Electronic copies: Available in English and Spanish from the [University of Michigan Health System Web site](#). This resource also includes a bowel movement monitoring sheet and fiber content information.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

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